sented only 18% of total NSAIDs, its cost represented the 64% of all NSAIDs. Glucosamine Sulfate represented the 60% of the spending on SYSADOAs. Total pharmacological cost per patient per year was 151,60€.
Conclusions: Knee osteoarthritis is a major cause of utilisation of health care resources and sick leave. The total pharmacological cost per patient per year was 151,60€. This amount is less than needed to treat most chronic rheumatic diseases, and represents a small fraction of the cost for the management of KOA.

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THE EFFECTS OF RUANGULI IN THE TREATMENT OF EXPERIMENTAL OSTEOARTHRITIS OF THE KNEE IN RABBITS

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Purpose: The objective of the present study was to investigate the mRNA expression level of α-actin, MHC (myosin heavy chain) isoforms (MHCI, IIa, IId/x, IIb), ADAMTS5 and Aggrecan in rabbit osteoarthritis model. To explore the effects of Ruanguli (A kind of Chinese herbal medicine compound recipe) in the treatment of knee osteoarthritis.
Methods: 36 adult, female New Zealand white rabbits were randomized in three groups, including sham control group, model control group, treatment group (RuanGuLi 2mg/day, 4 weeks). Osteoarthritis of the knee was induced surgically in 28 rabbits (model control group, treatment group). The other animals wee sham operated. One week after operation, interfering measures were taken into practice and lasted for 4 weeks. Animals were euthanized at 5 weeks postoperatively. RT-PCR was used to assess the mRNA expression level of α-actin, MHC isoforms in quadriceps femoris, Aggrecan and ADAMTS5 in knee cartilage. Mankin score was used to assess cartilage degeneration in the knee.
Results: The result of Mankin score suggested that there was significant difference between model control group and treatment group, Ruanguli treatment led to a significant reduction in articular cartilage degeneration. The results of RT-PCR suggested that the expression level of MHCIIa mRNA,MHCIId/x mRNA and α-actin mRNA in model group was significantly lower than that in sham control group. Ruanguli treatment significantly increased the level of MHCIIa,MHCIIb and α-actin mRNA when compared to model control group. Ruanguli treatment led to a significant increase in the expression level of Aggrecan mRNA expression and reduction in ADAMTS5 mRNA expression in articular cartilage.
Conclusions: In OA animals, the level of α-actin and MHC isforms mRNA was lower compared with normal animals. Ruanguli significantly increased α-actin, some MHC and Aggrecan expression as well as inhibited the expression of ADAMTS5 and reduced cartilage degeneration in knee.
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EFFECT OF BOVINE CHONDROITIN SULFATE ON IL-1BETA-STIMULATED HUMAN CHONDROCYTE C-20/A4 CELL LINE

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Purpose: The pathogenesis of primary osteoarthritis involves an imbalance between anabolic and catabolic pathways by chondrocytes. Expression of pro-inflammatory cytokines and matrix metalloproteinases, chondrocyte hypertrophy and apoptosis participate in the pathogenesis of osteoarthritis. Chondroitin sulfate (CS) is an important structural component of cartilage and is approved as a symptomatic slow-acting drug for osteoarthritis (SYSADOA) in Europe and other countries. Indeed, numerous studies showed the good tolerance and its clinical benefits to decrease pain, to improve functional disability and to reduce non-steroidal anti-inflammatory drug (NSAID) or acetaminophen consumption. However, mechanisms of action in vivo and in vitro are unknown.The goal of the study was to explore the effects of bovine CS on two main features of osteoarthritis: proteolysis and chondrocyte apoptosis.
Methods: To address these questions, we submitted immortalized human chondrocyte cell line C-20/A4 to bovine CS. Chondrocytes were treated or not with 2 ng/ml human interleukin 1 beta (IL-1 beta) alone or with 500 μg/ml of bovine CS for 20 hours in DMEM culture medium free from foetal bovine serum. Expression of collagenases MMP-1, MMP-13 and their specific inhibitor TIMP-1 was checked by ELISA assay in the culture medium. ADAMTS-5 expression (a disintegrin and metalloproteinase with thrombospondin motifs) was analyzed by western blot. Cell viability was performed by trypan blue, cell cycle analysis and apoptosis level were investigated by flow cytometry.
Results: Treatment of chondrocytes by 500 μg/ml CS protected the cells from death induced by 6 days incubation with 2 ng/ml IL-1β: upon CS and IL-1, 75% cells were alive compare to 50% without CS. Cell cycle analysis by FACS showed a significant decrease by CS of apoptosis in IL1-treated cells: 2% apoptotic cells with versus 15% without). Moreover, CS decreased the IL-1 mediated expression of ADAMTS-5 contrary to that of MMP-1, MMP-13 and TIMP-1.
Conclusions: The proinflammatory cytokine interleukin-1 beta participates in the pathogenesis of cartilage damage in osteoarthritis. In this study we provided experimental evidence that bovine CS decreases ADAMTS-5 expression and protects from apoptosis of human chondrocyte cell line stimulated by IL-1β. These results emphasize the potential beneficial effect of bovine CS in osteoarthritis.

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RECOVERY OF PHYSICAL FUNCTIONING AFTER TOTAL HIP ARTHROPLASTY: A SYSTEMATIC REVIEW OF THE LITERATURE

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Purpose: Today's total hip arthroplasty (THA) patients, who are